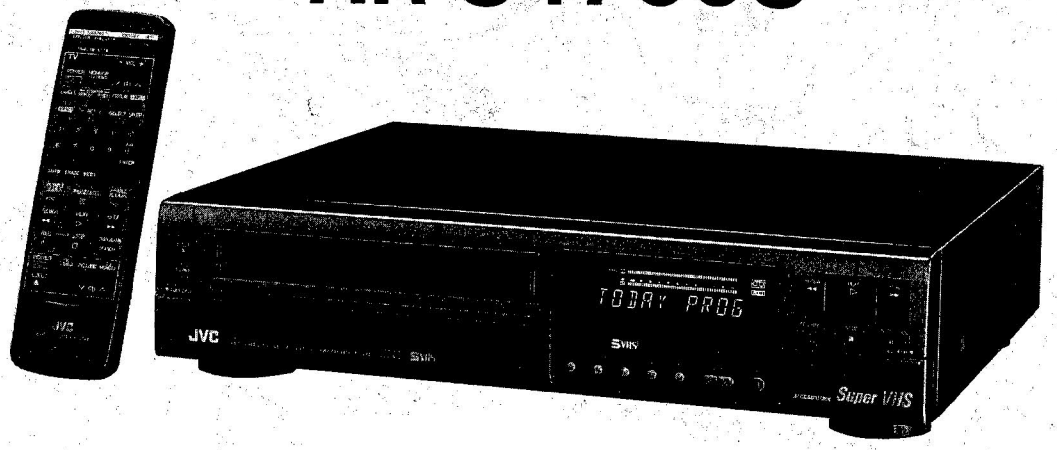
JVC

STEREO VIDEO CASSETTE RECORDER

HR-S4700U



Hi-Fi
S-VHS

SPECIFICATIONS

GENERAL

Power requirement	:	AC 120 V~, 60 Hz
Power consumption	:	34 W
Temperature		
Operating	:	5°C to 40°C (41°F to 104°F)
Storage	:	–20°C to 60°C (–4°F to 140°F)
Humidity		
Operating	:	35% to 80%
Storage	:	5% to 80%
Operating position	:	Horizontal only
Dimensions (WxHxD)	:	435 x 102 x 373 mm (17-3/16" x 4-1/16" x 14-11/16")
Weight	:	6.4 kg (14.2 lbs)
Format	:	S-VHS/VHS NTSC standard with Hi-Fi audio
Tape width	:	12.65 mm
Tape speed (SP)	:	33.35 mm/sec (1-5/16 ips)
(EP)	:	11.12 mm/sec (7/16 ips)
Maximum recording time (SP)	:	160 min. with T-160 video cassette
(EP)	:	480 min. with T-160 video cassette

VIDEO

Signal system	:	NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording system	:	Rotary two-head helical scan system with slant double-azimuth combination video heads
Input	:	0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output	:	1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio	:	45 dB (Rohde & Schwarz noise meter) with PICTURE CONTROL set to OFF
Horizontal resolution	:	240 lines (VHS) 400 lines (S-VHS) with PICTURE CONTROL set to OFF

AUDIO

Input	:	–8 dBs, more than 50 k-ohms, unbalanced
Output	:	–8 dBs, less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system	:	Longitudinal track
No. of channels	:	1 normal audio channel
Frequency response	:	70 Hz to 10,000 Hz

Hi-Fi AUDIO

Recording system	:	Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of channels	:	2 Hi-Fi audio channels
Frequency response	:	20 Hz to 20,000 Hz
Dynamic range	:	More than 90 dB
Wow and flutter	:	Less than 0.005% WRMS

TUNER

Tuning system	:	Frequency synthesized tuner
Channel coverage		
(VHF)	:	Channels 2–13
(UHF)	:	Channels 14–69
(CATV)	:	113 Channels
RF output	:	Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference	:	Quartz-crystal
Program capacity	:	1-year programmable timer/ 8-programs

ACCESSORIES

Provided accessories	:	RF cable (F-type), Infrared remote control unit, "AA" battery x 2, Audio cable, Video cable, S-Video cable (4 pin), Mini-plug cable

E. & O.E. Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.

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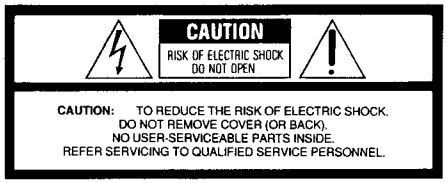
No. 82277
October 1991

Safety Precautions


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Note to CATV system installer:
This reminder is provided to call the CATV system installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

This video cassette recorder should be used with AC 120V~, 60 Hz only.
CAUTION:
To prevent electric shocks and fire hazards, do NOT use any other power source.

When you are not using the video recorder for a long period of time, it is recommended that you disconnect the power cord from the AC outlet.

CAUTION:
TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION:
Pour éviter les chocs électriques, introduire la lame la plus large de la fiche dans la borne correspondante de la prise et pousser jusqu'au fond.

NOTE:
The rating plate and the safety caution are on the side and rear of the unit.

CAUTION:
Changes or modifications not approved by JVC could void user's authority to operate the equipment.

S-VHS

■ Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".

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How To Use This Instruction Manual

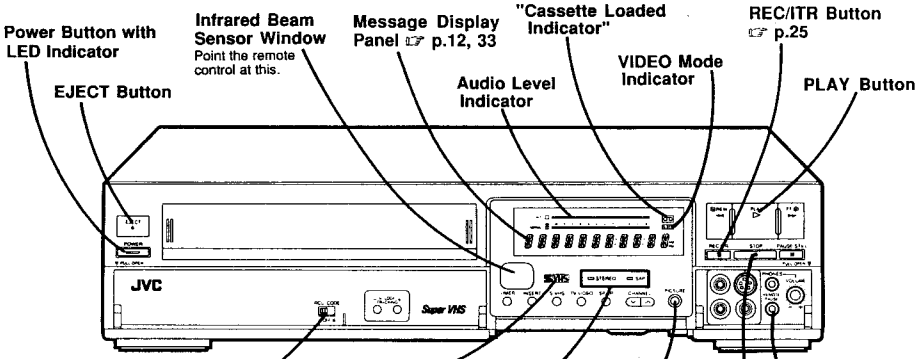
This instruction manual has been designed with both new and experienced users in mind. The first half offers detailed, step-by-step instructions for setting up your VCR, and on using its basic functions. The second half provides instructions on the many other functions available on your VCR. So just by following the instructions on the first 16 pages of this manual, you can master all of your VCR's basic functions, including timer-recording. Once you're sufficiently familiar with basic operation, or if you're already an experienced video user, you can move on to the more advanced functions introduced on the following pages. Also, towards the end of this instruction manual, there are sections offering supplemental information which you should find helpful in the course of operating your VCR.

Related features have all been clustered together for easy reference, and their categories (playback, recording, timer, etc.) are easily recognizable by the symbol appearing in the page header. If you ever need to refer to another page for instructions or information, you will be told so by a ☞ mark pointing to the page number. Unless otherwise specified, operation buttons mentioned in the instructions refer to those located on the remote control, not those duplicated on the VCR.

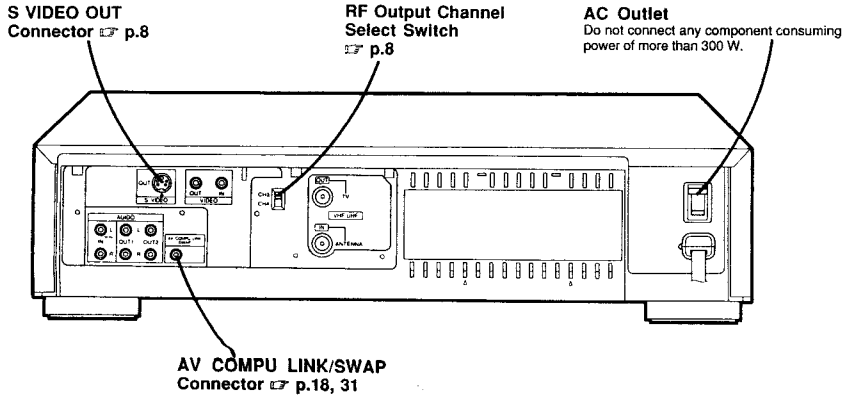
Remember, you must use your VCR correctly to fully enjoy it. Please use this manual effectively. It's the surest and quickest way to unlock the full potential of your new JVC VCR.

Controls, Indicators, And Connectors

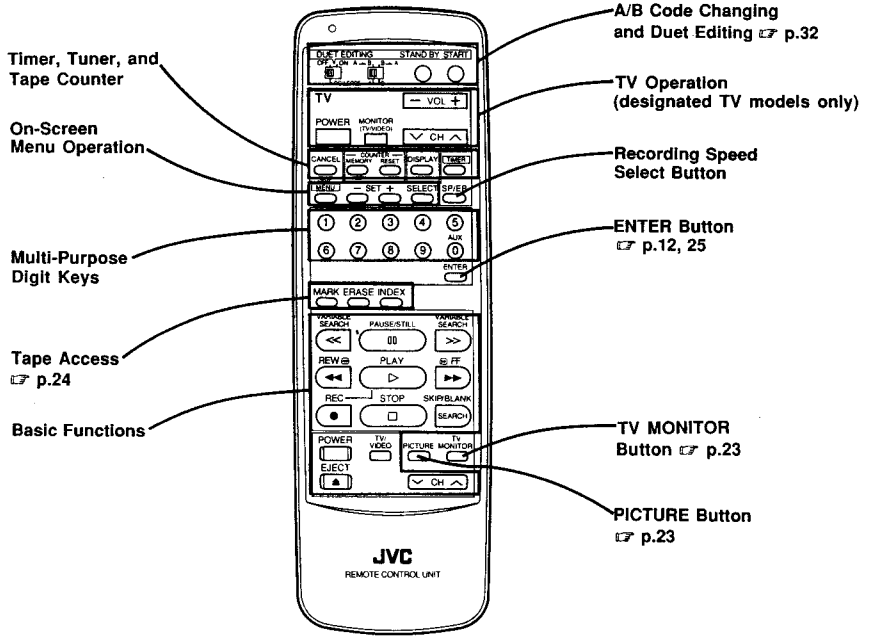
Front Panel


Power Button with LED Indicator
Infrared Beam Sensor Window
Point the remote control at this.
Message Display Panel ☞ p.12, 33
"Cassette Loaded Indicator"
REC/ITR Button ☞ p.25
EJECT Button
Audio Level Indicator
VIDEO Mode Indicator
PLAY Button
S-VHS Mode Indicator ☞ p.26
Multichannel TV Sound Indicators ☞ p.26
REMOTE PAUSE Terminal ☞ p.31
RCU (Remote Control Unit) CODE Switch
Set to A or B.
(The remote control's RCU switch must also be set to A or B accordingly. In the OFF position, no remote operation is available.)
PICTURE Button/Indicator ☞ p.23
STOP Button

Back Panel

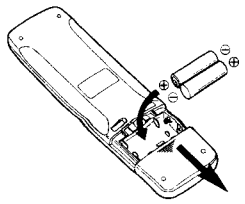

S VIDEO OUT Connector ☞ p.8
RF Output Channel Select Switch ☞ p.8
AC Outlet
Do not connect any component consuming power of more than 300 W.
AV COMPU LINK/SWAP Connector ☞ p.18, 31

Wireless Remote Control


Timer, Tuner, and Tape Counter
On-Screen Menu Operation
Multi-Purpose Digit Keys
Tape Access ☞ p.24
Basic Functions
A/B Code Changing and Duet Editing ☞ p.32
TV Operation (designated TV models only)
Recording Speed Select Button
ENTER Button ☞ p.12, 25
TV MONITOR Button ☞ p.23
PICTURE Button ☞ p.23
JVC
REMOTE CONTROL UNIT

Installing Batteries

1. Slide the battery compartment cover in the direction of the arrow.
2. Insert 2 "AA"-size batteries (provided) in the correct directions.
3. Replace the cover.



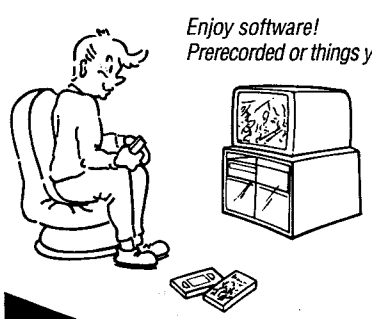
How To Use

The remote control can operate most of your VCR's functions, as well as basic functions of designated JVC TV sets.

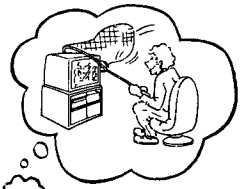
- Point the remote control at the sensor window.
- The maximum operating distance of the remote control is about 8 m (26 ft).

Getting To Know Your VCR

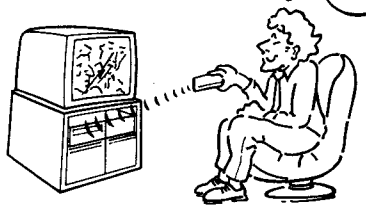
The 3 Basic Ways Of Using Your VCR



Enjoy software!
Prerecorded or things you've recorded!



Catch a TV program!
With push-button ease!



Playback

With this VCR properly hooked-up to your TV set, you'll be able to watch an enormous variety of video software. Enjoy the VHS tapes you already have, and treat yourself to the terrific picture quality of Super VHS tapes. And, thanks to this VCR's Hi-Fi capability, you'll also be able to fully enjoy the powerful Hi-Fi soundtracks available on most prerecorded VHS software.

Watch TV programs when you want.
Record TV programs while you're away.

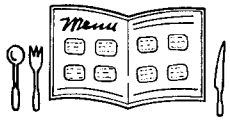
Recording

This VCR offers you a choice of recording in either VHS or S-VHS. Thanks to S-VHS's high resolution, you'll be able to record TV programs without any loss of the original picture quality. S-VHS is economical too, because you can record in the longer EP mode and still get excellent picture quality. And any time you need to record in VHS — no problem. Just insert a VHS cassette and you're ready to go.

Timer-Recording

By using the built-in timer, you can set your VCR to record TV programs for you while you're asleep, while you're away, or while you're doing something else. Then you can watch those programs later, whenever it's convenient, whenever you want. This is what's called "timeshifting", and now you can do it the JVC way.

Some Other Functions On Your VCR



On-Screen Menu System

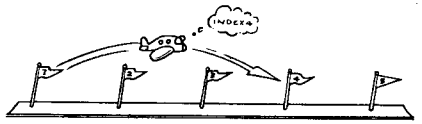
Do everything from VCR set up to timer-programming while watching bright, easy to see, easy to understand on-screen menus. The screen even turns green to let you know when a procedure has been completed.

VCR "Message" Display Panel

The VCR "talks" to you from its message display panel. It's easy to understand what the VCR is doing at any time — a friendlier way to interact with your VCR.

Picture Control

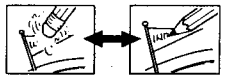
One-touch control over the type of video picture you want. Make it clearer, make it better for dubbing, make it softer, make it sharper — do it all with Picture Control.

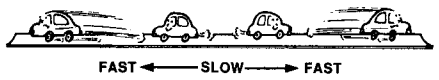


Index Search

Zooms to the index code number you specify. Easy location of index-coded programs at the touch of a button.

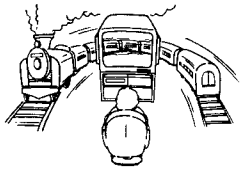
With index mark/erase, you can add or delete index codes as you wish.





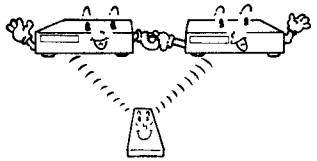
Variable-Speed Slow/Search

A variety of special-effects playback from slow motion to fast motion in either direction.



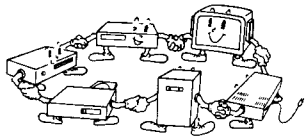
HI-Fi Stereo Sound

Enjoy films with Hi-Fi stereo soundtracks just as you would in theaters. Use the built-in MTS (Multichannel TV Sound) decoder to record stereo programs in stereo, or to record SAP programs without losing the main audio.



Duet Editing

Synchronized editing control over two JVC VCRs using one remote control.



AV COMPU LINK

Build a totally integrated home entertainment system with JVC's AV COMPU LINK components. One-touch COMPU LINK video playback is possible — all components "co-operate" with each other. It's the "modern approach" to effortless AV entertainment.

Making The Right Connections

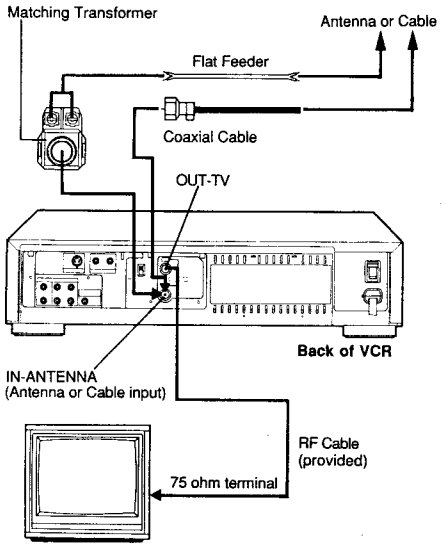
It's essential that your VCR be properly hooked up for proper results. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VCR OPERATION CAN BE PERFORMED.

A VCR-TO-TV CONNECTION

RF CONNECTION

For standard TV sets:

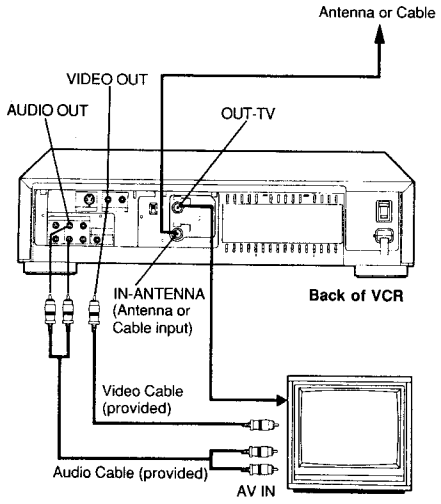
1. Disconnect the TV antenna from the TV.
2. Connect the TV antenna to the VCR.
3. Connect the VCR to the TV's antenna terminal using the provided RF Cable.



AV CONNECTION

For TV sets with AV input terminals:

1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR to the TV's AV-IN terminals.



NOTES:

Either pair of AUDIO OUT (1 or 2) can be used to connect to the television. Use the other pair to connect to an audio amplifier.

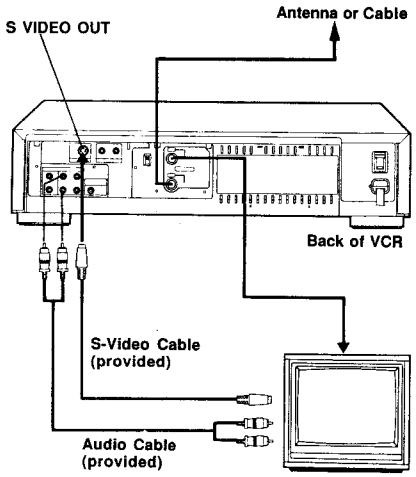
See the separate "Basic Guide For VCR Connections" for more information and other possible connections.

The VCR rear panel illustration in the "Basic Guide For VCR Connections" differs from your VCR. Terminals are labeled and positioned differently. The lower IN-ANTENNA terminal of your VCR corresponds to the upper ANT. IN terminal of the "Basic Guide", and the upper OUT-TV terminal of your VCR corresponds to the lower RF OUT terminal of the "Basic Guide".

S-VIDEO CONNECTION

For sets with S-VIDEO input terminal:

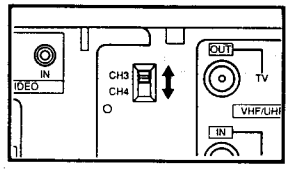
1. Connect the antenna, VCR and TV as per "RF CONNECTION".
2. Connect the VCR's S VIDEO OUT terminal to the TV's S VIDEO IN terminal.
3. Connect the VCR's AUDIO OUT terminals to the TV's AUDIO IN terminals.



NOTES:

- To make the most of Super VHS picture performance, we recommend you use the S-VIDEO connection.
- To operate the VCR with your TV using the S VIDEO connection, set your TV to the AV mode.

B SELECT VCR CHANNEL



With RF Connection

Set this switch to either CH3 or CH4 (the channel not used for broadcasting in your area).

- The OUT-TV terminal sends picture and sound signals to your TV on channel 3 or 4. The sound signal is monaural.
- To operate the VCR via RF connection, set the VCR to the VIDEO mode and your TV's channel to the one you set the VCR to in this step.
- For ordinary TV viewing, set the VCR to the TV mode.

With AV or S-VIDEO Connection

- To operate the VCR via AV or S-VIDEO connection, set your TV to the AV mode.

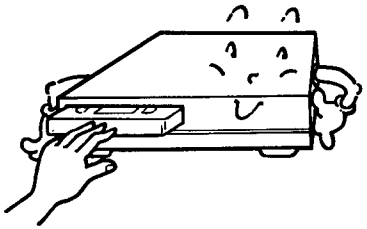
Handling Videocassettes

A LOADING A CASSETTE

1 Insert a cassette with its label side facing you.
- If the cassette is not loaded firmly it will be ejected.

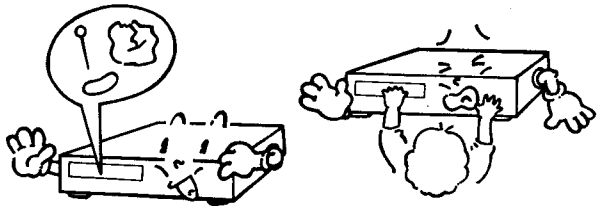
B UNLOADING A CASSETTE

1 Press EJECT.
- If the cassette will not eject, check to see if "TIMER" is displayed on the VCR's message panel. If it is, press the TIMER button to turn it off.



NOTES:
- Be sure to insert the cassette firmly into the slot; otherwise it will be automatically ejected.
- The automatic loading mechanism will operate only when the cassette is inserted correctly.

WARNING
- Do not insert fingers or foreign objects into the cassette loading slot since this could lead to injury or damage to the mechanism. Be especially careful with children.
- Do not try to pull out a cassette once automatic loading has started.



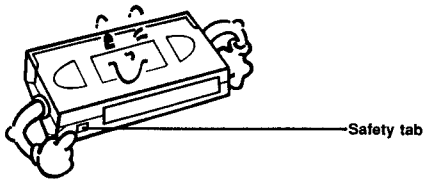
Usable Cassettes And Their Recording Time

Type of Cassette		Recording/Playback Time	
		SP (Standard Play)	EP (Extended Play)
VHS	T-30	30 minutes	1 hour, 30 minutes
	T-60	1 hour	3 hours
	T-90	1 hour, 30 minutes	4 hours, 30 minutes
	T-120	2 hours	6 hours
	T-160	2 hours, 40 minutes	8 hours
S-VHS	ST-30	30 minutes	1 hour, 30 minutes
	ST-60	60 minutes	3 hours
	ST-120	2 hours	6 hours

Both regular VHS and S-VHS cassettes can be used with your VCR. However, to make S-VHS recordings, you must use S-VHS cassettes.

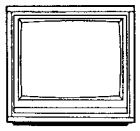
Accidental Erasure Prevention

To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.

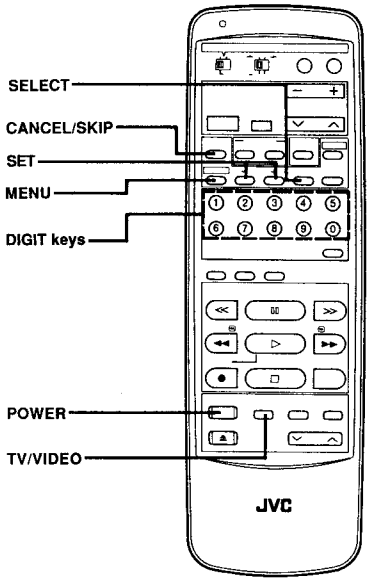


Setting The Clock

Since your VCR bases all of its timer recording start and stop "decisions" on the time kept by its built-in clock, accurate setting of this clock is crucial for proper timer-recording results.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)

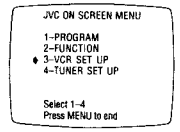


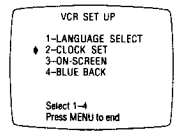
A TURN ON THE VCR

1 Press POWER.
2 Press TV/VIDEO to select the VIDEO mode.
- The VCR's VIDEO indicator should be lit.

B ACCESS THE ON-SCREEN MENU

3 Press MENU.
4 Press the 3 key. (VCR Set Up)
5 Press the 2 key. (Clock Set)





C INPUT THE MONTH/DAY/YEAR

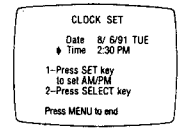
6 Press the appropriate digit keys.
- Example: For August 6, 1991, press 0 8 0 6 9 1.
Always enter "0" before single-digit entries.

7 Press SELECT.
- The day of the week will automatically appear.

D INPUT THE TIME

8 Press the appropriate digit keys.
- Example: For 2:30 press 0 2 3 0.

9 Press SET to choose AM or PM.



E START THE CLOCK

10 Press SELECT.
- Screen turns green to let you know the clock has started.

F RETURN TO THE TV SCREEN

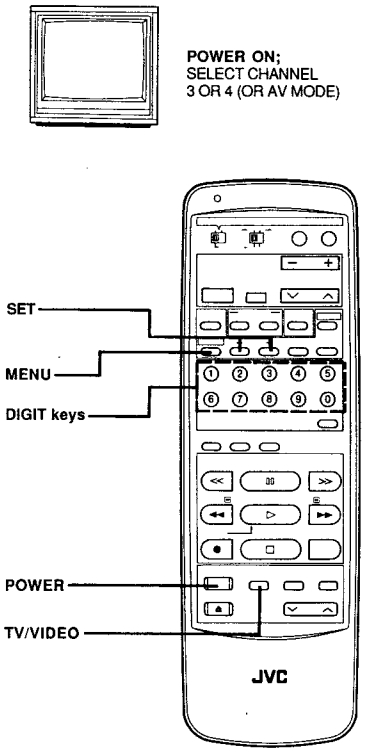
11 Press MENU.

ATTENTION:
On-screen menus and messages can be displayed in French or Spanish. For instructions on changing the on-screen language ☞ p.17.

TO MAKE CORRECTIONS
Press CANCEL/SKIP (repeatedly if needed) to move back to an item you want to change.

Setting The Tuner

The Auto Set feature introduced here automatically assigns receivable channels in your area to the CHANNEL UP/DOWN button and skips the others so you won't have to go through any "blank" channels to get to the one you want.



A TURN ON THE VCR

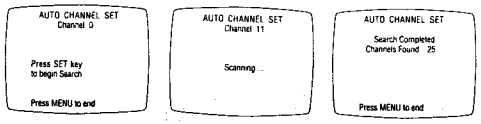
1 Press POWER.
2 Press TV/VIDEO to select the VIDEO mode.
- The VCR's VIDEO indicator should be lit.

B ACCESS THE ON-SCREEN MENU

3 Press MENU.
4 Press the 4 key. (Tuner Set Up)
5 Press the 1 key. (Auto Channel Set)

C START AUTO SET

6 Press SET.
- Screen turns green and "Scanning..." is displayed while auto set is in progress.
- After completion of auto set, the total number of set channels is displayed.



D RETURN TO THE TV SCREEN

7 Press MENU three times.

TO ADD/DELETE CHANNELS MANUALLY

☞ p.19, 20.

MODE Mode Displays — What They Mean

Message Display Panel

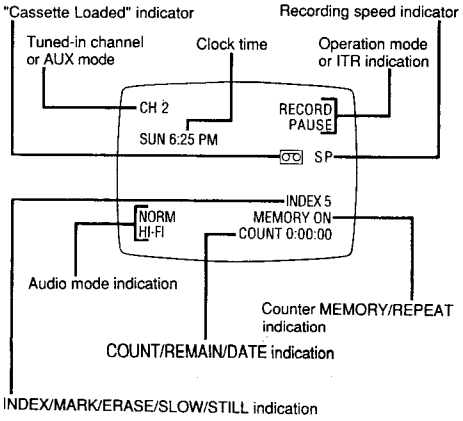
The operation mode is displayed on the VCR's display panel automatically. Displayed messages are designed to be self-explanatory. Here are some of the more common displays:

DISPLAY	MODE	DISPLAY	MODE
PLAY	Play	PAUSE 10	Record Pause
STILL	Still	FWD SEARCH	Forward Search
FF	Fast-Forward	REV SEARCH	Reverse Search
REW	Rewind	FWD SLOW	Forward Slow
REC SP 10	Record	REV SLOW	Reverse Slow
TIMER REC	Timer-Recording	EJECT	Eject

For a more comprehensive list and FDP Dimmer instructions ☞ p.18, 33.

On-Screen Display

Operation modes are displayed on the TV screen unless the "On-Screen" function is set to "OFF". ☞p.17.



AUTOMATIC INDICATION

- **Channel**
  When the channel is changed, the new channel is displayed on the screen for 5 seconds.
- **Operation mode**
  When the operation mode is changed, the new mode is displayed — RECORD (5 sec.), PLAY (5 sec.), FF/REW (5 sec., when engaged from Stop mode), and RECORD PAUSE (for as long as Pause is engaged).
- **"Cassette Loaded" mark**
  When a cassette is loaded the mark is displayed for 5 seconds. It blinks when EJECT is pushed.

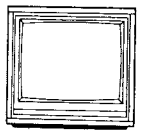
MANUAL RECALL

1 Press ENTER.
- This displays the mode and time on the screen for 5 seconds.

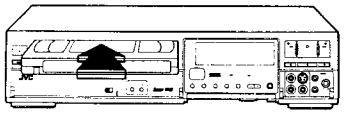
2 Press ENTER again to clear the display.

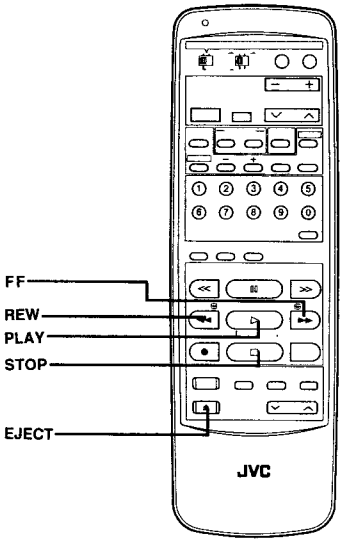
Playback

The easiest, most basic operation possible with your VCR is tape playback. Already-recorded signals on a video tape are read by your VCR and displayed on your TV just like a TV program.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)





A LOAD A CASSETTE

1 Insert a cassette.
- The VCR power will come on automatically.
- If the safety tab on the cassette is removed, playback will start automatically.

B TO START PLAYBACK

2 Press PLAY.
- The VIDEO mode is automatically set and the VIDEO indicator will light.

C TO STOP PLAYBACK

3 Press STOP.

D TO REWIND OR FAST-FORWARD

4 Press REW to rewind the tape.
5 Press FF to fast-forward the tape.
- Press STOP to stop rewind or fast-forward.

E TO EJECT THE TAPE

6 Press EJECT.

High-Speed Forward And Reverse Search

During Playback:

Press FF for high-speed forward search.
Press REW for high-speed reverse search.
Press PLAY to resume normal playback.
- For short searches, keep FF or REW pressed for more than 2 seconds. When released, normal playback will continue.

Still Playback And Frame Advance

During Playback:

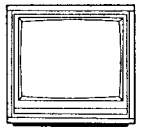
1 Press PAUSE/STILL to view a still picture.
2 Press again to advance the picture frame by frame.
3 Press PLAY to resume normal playback.

NOTES:

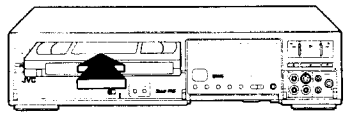
- The S-VHS mode is automatically selected for S-VHS recordings. The S-VHS indicator will light.
- Tapes with monaural soundtracks (normal audio) are automatically played back in the NORM mode. When playing back tapes with Hi-Fi stereo soundtracks or SAP-recorded tapes, ☞ p.21.
- The VCR automatically stops when still continues for more than 5 minutes.
- If the still picture is unstable (vertical jitter) use the VCR's V. LOCK buttons to correct the picture.
- During search playback, some noise bars will appear.
- If noise bars appear during playback, correct using manual tracking. ☞ p.22.
- There is no audio during search, still, or frame-by-frame playback.
- Picture loss will occur when search, still, or frame-by-frame is attempted with LP-mode recorded tapes. Press PLAY to return to normal playback and restore the picture.
- The VCR automatically rewinds when the end of the tape is reached during play, fast-forward or forward search.

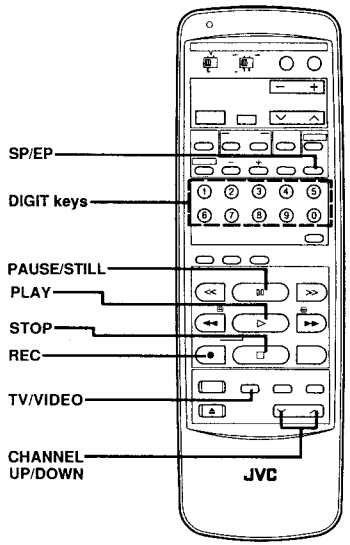
Recording

TV signals being received by the VCR's built-in tuner can be recorded onto a video tape. This is realtime video recording.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)





A LOAD A CASSETTE

1 Insert a cassette with the record tab in place.
- The VCR power will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B CHOOSE A PROGRAM

2 Press CHANNEL UP/DOWN or the digit keys to select the channel you wish to record.

C SELECT THE TAPE SPEED

3 Press SP/EP.

D TO START RECORDING

4 Press REC and PLAY simultaneously.

E TO PAUSE RECORDING

5 Press PAUSE/STILL.
6 Press PLAY to resume recording.

F TO STOP RECORDING

7 Press STOP.

To Watch Another Program While Recording

During Record:

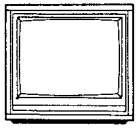
1 Press TV/VIDEO. The VCR's VIDEO indicator and the TV broadcast being recorded will disappear.
2 Use the channel controls on the TV to select the other channel you wish to view.
- The program selected with the TV channel controls will appear on the TV screen while the one selected with the VCR channel controls will be recorded on the tape.

NOTES:

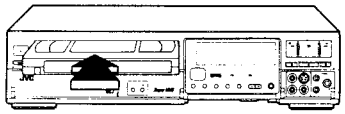
- After pause, when recording is resumed, a few frames recorded before the pause may be overlapped by the new recording. This is meant to reduce picture distortion and is not a malfunction.
- The VCR automatically stops when record-pause continues for more than 5 minutes.
- If the REC button does not work, check to see if the cassette's safety tab has been removed.
- The channel cannot be changed while recording is in progress. To change the channel, press PAUSE, then change the channel.
- The VCR automatically rewinds when the end of the tape is reached during recording.
- For S-VHS/VHS recording and SAP recording, ☞ p.26

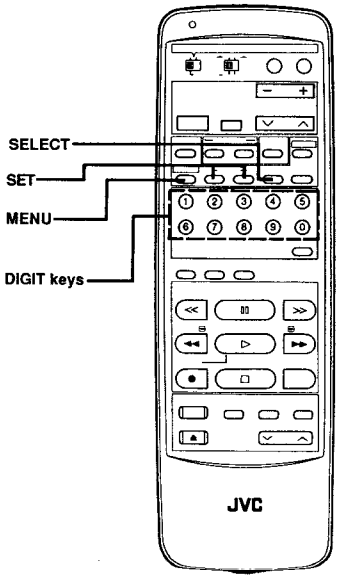
Timer-Recording

The on-screen timer programming method introduced here is the most comprehensive and versatile of those possible with your VCR. You can program up to 8 recordings over a 1 year period. TIMER PROGRAMMING IS NOT POSSIBLE UNLESS THE CLOCK HAS BEEN SET.



POWER ON;
SELECT CHANNEL
3 OR 4 (OR AV MODE)



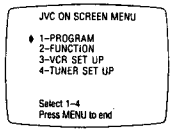


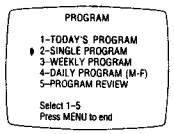
A LOAD A CASSETTE

1. Insert a cassette with the record tab in place.
   - The VCR power will come on automatically. Be sure that the VIDEO indicator is lit; if not, press TV/VIDEO so that it lights.

B ACCESS THE ON-SCREEN MENU

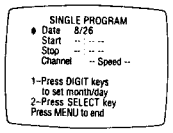
2. Press MENU.
3. Press the 1 key. (Program)
4. Press the 2 key. (Single Program)





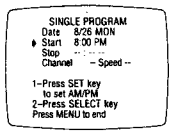
C INPUT THE PROGRAM'S DATE

5. Press the appropriate digit keys.
   - Example: For August 26, press 0 8 2 6. Always enter "0" before single-digit entries.
6. Press SELECT.
   - The day of the week will automatically appear.



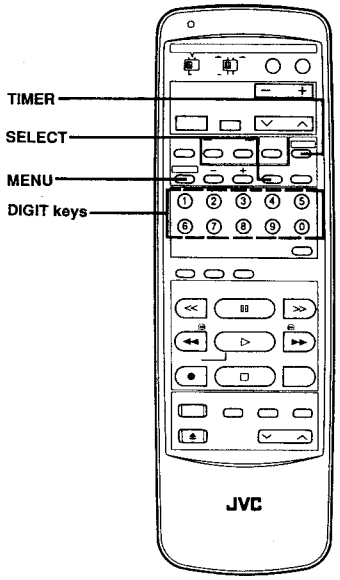
D INPUT THE REC START TIME

7. Press the appropriate digit keys.
   - Example: For 8:00, press 0 8 0 0.
8. Press SET to choose AM or PM.
9. Press SELECT.



E INPUT THE REC STOP TIME

10. Press the appropriate digit keys.
    - Example: For 10:00, press 1 0 0 0.
11. Press SET to choose AM or PM.
12. Press SELECT.



F INPUT THE CHANNEL NUMBER

13. Press the appropriate digit keys.
    - Example: For channel 5, press 5.
14. Press SELECT.

G SELECT THE TAPE SPEED

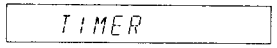
15. Press the 1 key for SP, 2 for EP.
16. Press SELECT.
    - Screen turns green to let you know that programming is completed.

H RETURN TO THE TV SCREEN

17. Press MENU three times.

I SET TO TIMER MODE

18. Press TIMER.
    - The VCR will enter the timer mode, power will go off, and "TIMER" will appear on the display panel.



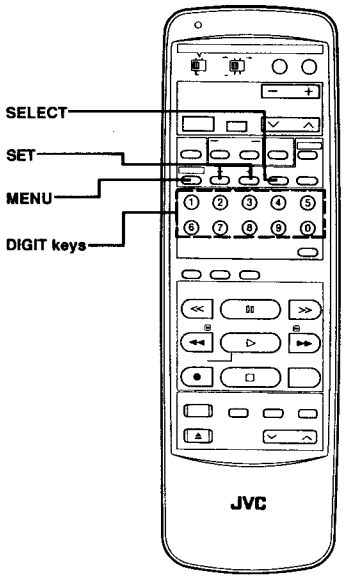
    - Press TIMER again to release the timer mode.

For other timer programming methods ☞ p.27.
Any questions? ☞ p.28, 29.

NOTE:

- To timer-record cable channels received through the Converter Box, input the Converter Box's output channel (e.g. 3) in step 13. Select the channel you wish to record at the Converter Box and keep the Converter Box set to ON.

VCR On-Screen VCR Set Up



Language Select

Although the pre-set on-screen language is English, you can set the VCR to display on-screen menus and messages in French or Spanish.

1 Press MENU.
2 Press the 3 key. (VCR Set Up)
3 Press the 1 key. (Language Select)
4 Press SET to choose the language you want.
5 Press MENU to end.

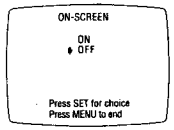
Clock Set

Always re-set the clock after a power outage, or whenever your time zone changes to or from Daylight Saving Time.
For instructions ☞ p.10.

On-Screen (On/Off)

You can choose whether or not to display VCR mode indications on the TV screen. Pre-set to "ON", on-screen messages can be turned "OFF".

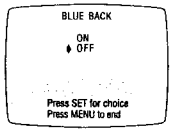
1 Press MENU.
2 Press the 3 key. (VCR Set Up)
3 Press the 3 key. (On-Screen)
4 Press SET to choose ON or OFF.
5 Press MENU to end.



Blue Back (On/Off)

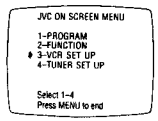
Your VCR is set to display the JVC logo with blue background on your TV screen whenever a broadcast signal is not received or is very weak. You can cancel this function if you wish to receive extremely weak signals.

1 Press MENU.
2 Press the 3 key. (VCR Set Up)
3 Press the 4 key. (Blue Back)
4 Press SET to choose ON or OFF.
5 Press MENU to end.

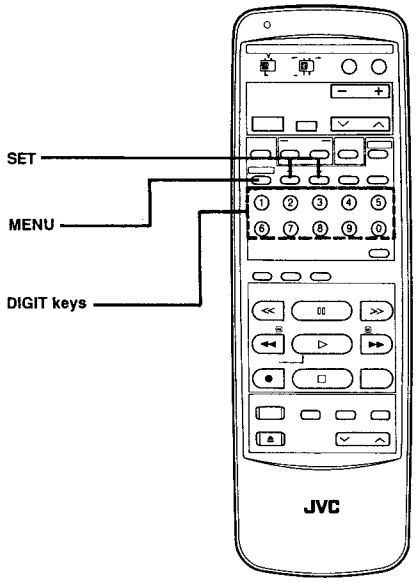


NOTES:

On-Screen Menu selections can be chosen by pressing the corresponding digit key, or by pressing SET to move the cursor arrow to the correct position and then pressing SELECT.



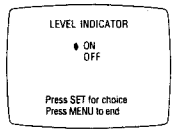
FUNCTION On-Screen Function Set Up



Audio Level Indicator On/Off

You can choose whether or not to display the audio level indicator on the display panel. Pre-set to "ON", the indicator can be turned "OFF".

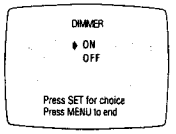
1 Press MENU.
2 Press the 2 key. (Function)
3 Press the 6 key. (Level Indicator)
4 Press SET to choose ON or OFF.
5 Press MENU to end.

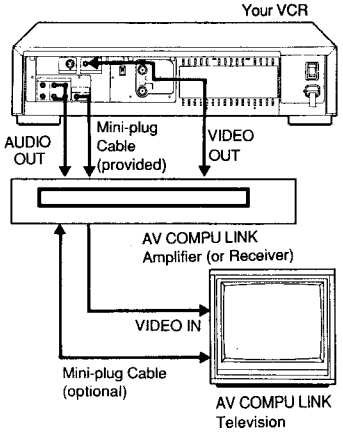


Dimmer

This function lets you make the VCR's display panel less bright.

1 Press MENU.
2 Press the 2 key. (Function)
3 Press the 3 key. (Dimmer)
4 Press SET to choose ON.
5 Press MENU to end.
■ Reset Dimmer to OFF when you wish to release the dimmer function.



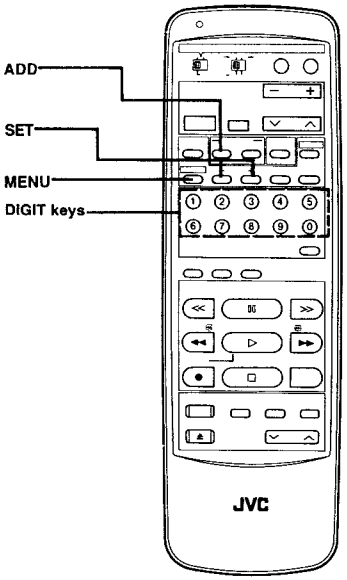


AV COMPU LINK Playback

Your VCR is compatible with JVC's AV COMPU LINK components which include amplifiers (or receivers) and televisions.
Connect your VCR to an AV COMPU LINK amplifier and an AV COMPU LINK television as illustrated. AV COMPU LINK video playback is as easy as this:

■ Simply load a cassette in your VCR and press PLAY. (If the cassette's safety tab has been removed, even this "touch" is not necessary.) The amplifier and TV turn on automatically and the TV's mode is automatically set to VIDEO; you're already watching!

TUNER On-Screen Tuner Set Up



Auto Channel Set

Since receivable channels differ by locale, it will be necessary to reset your VCR's channels when you move to another location. Auto Channel Set is the easiest way to do this. For instructions ☞ p.11.

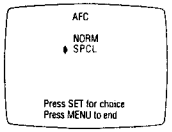
Manual Channel Set

After Auto Channel Setting, you way wish to modify your VCR's receivable channels (add weak channels that were skipped, delete channels you don't want to receive).

TO ADD A WEAK CHANNEL

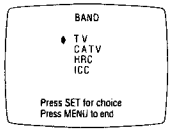
A CHANGE AFC (AUTOMATIC FREQUENCY CONTROL)

1. Press MENU.
2. Press the 4 key. (Tuner Set Up)
3. Press the 4 key. (AFC)
4. Press SET to choose SPCL.
5. Press MENU.



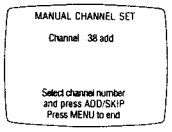
B SELECT THE TV BAND

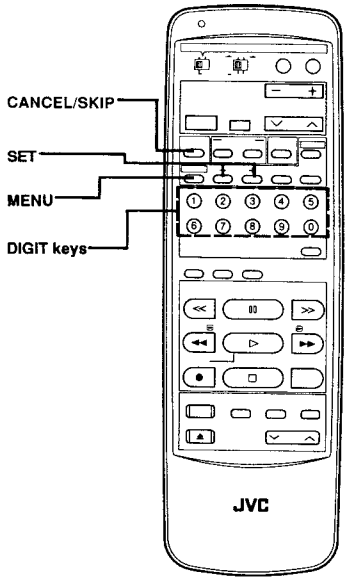
6. Press the 3 key. (Band)
7. Press SET to choose TV.
8. Press MENU.



C ADD THE CHANNEL

9. Press the 2 key. (Manual Channel Set)
10. Press the appropriate digit keys to input the channel number.
    - Example: For channel 38, press 3 8.
11. Press ADD.
    - Display should change from "skip" to "add".
12. Press MENU to end.

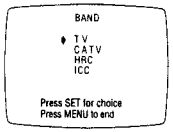




TO DELETE AN UNWANTED CHANNEL

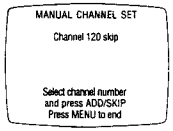
A SELECT THE BAND

1. Press MENU.
2. Press the 4 key. (Tuner Set Up)
3. Press the 3 key. (Band)
4. Press SET to choose the appropriate band.
5. Press MENU.



B SKIP THE CHANNEL

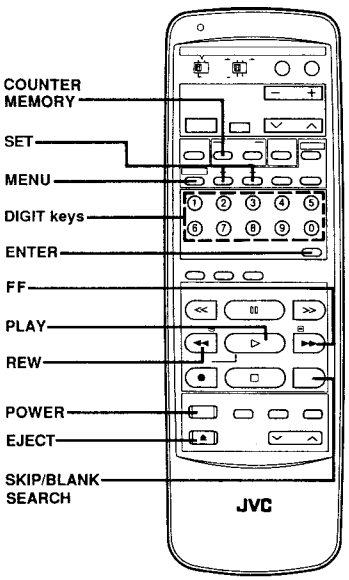
6. Press the 2 key. (Manual Channel Set)
7. Press the appropriate digit keys to input the channel number.
8. Press CANCEL/SKIP.
    - Display should change from "add" to "skip".
9. Press MENU to end.



NOTES:

- The BAND select feature has 4 settings (TV, CATV, HRC, and ICC). Set to TV if your antenna provides only UHF and VHF channels. Set to CATV if your antenna system is a cable TV line with or without a cable converter/decoder box. Set to HRC or ICC if this matches your particular cable system; check with your cable supplier to determine your type of system.

For Playback



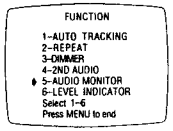
Soundtrack Selection

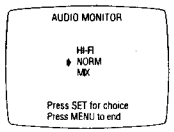
Your VCR is capable of recording two soundtracks (Hi-Fi and NORMAL) simultaneously, and playing back the selected soundtrack or two together.

During Playback or Stop:

1 Press MENU.
2 Press the 2 key. (Function)
3 Press the 5 key. (Audio Monitor)
4 Press SET to choose HI-FI, NORM, or MIX.
- HI-FI to listen to the Hi-Fi soundtrack.
- NORM to listen to the normal soundtrack (such as SAP). ☞ p.26
- MIX to listen to both soundtracks combined. Select this setting when playing back edited tapes with insert edits or dubbed audio made on an appropriately equipped VCR.

5 Press MENU to end.





NOTES:
- You do not have to set to NORM when playing back tapes with normal soundtrack only.
- When "MIX" is selected, both "HI-FI" and "NORM" appear on the TV screen when the ENTER button is pressed.

Skip Search

Your VCR offers a simple way of skipping over unwanted sections of recorded TV programs.

During Playback:

1 Press SKIP/BLANK SEARCH from 1 to 4 times.
This fast-motions through 30-sec. to 2-min. of tape.
- Playback resumes automatically.
- Press PLAY to cancel a Skip Search midway.

Memory Play

For automatic start of playback after a tape is rewound:

1 Press REW.
2 Press PLAY within 2 seconds.

For automatic start of playback beginning at counter position "0:00:00":

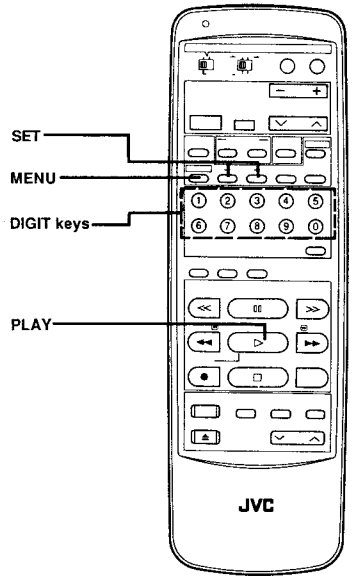
1 Press COUNTER MEMORY.
2 Press REW (or FF).
3 Press PLAY within 2 seconds.

For automatic tape eject after tape is rewound:

1 Press REW.
2 Press EJECT within 2 seconds.

For automatic power off after tape is rewound:

1 Press REW.
2 Press POWER within 2 seconds.

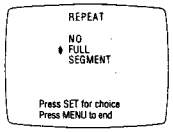


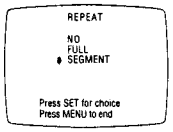
Repeat Playback

Your VCR can automatically play back the whole tape or an index-marked portion 5 times repeatedly.

During Stop:

1 Press MENU.
2 Press the 2 key. (Function)
3 Press the 2 key. (Repeat)
4 Press SET to choose NO, FULL, or SEGMENT repeat.
5 Press MENU to end.
6 Press PLAY. Repeated playback will start. After playback 5 times consecutively, playback will stop.
- Be sure to reset Repeat to NO before pressing PLAY again because this will re-start repeat playback.



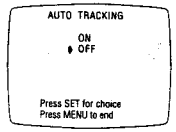


Manual Tracking

Your VCR is equipped with automatic tracking control. If you wish to adjust tracking manually, you can override this function.

During Playback or Stop:

1 Press MENU.
2 Press the 2 key. (Function)
3 Press the 1 key. (Auto Tracking)
4 Press SET to choose OFF.
5 Press MENU to end.
6 Press SET (– or +) to adjust tracking when required during playback.
- You can also use the VCR's TRACKING buttons.
- Reset Auto Tracking to ON when you wish to re-engage automatic tracking.



During Slow:

1 Press SET (– or +) to adjust tracking.
- You can also use the VCR's TRACKING buttons.

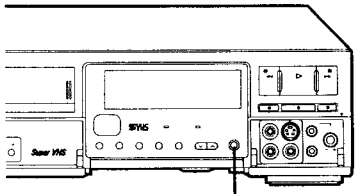
During Still:

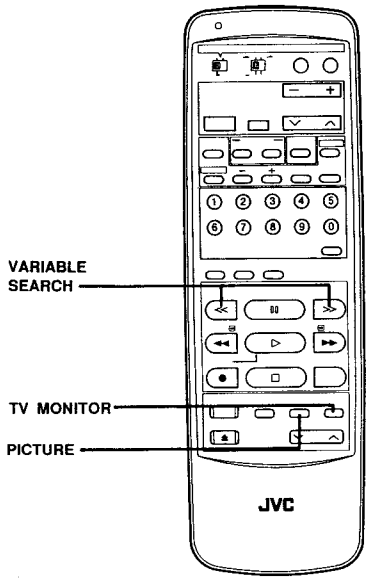
1 Press PAUSE/STILL a few more times to remove the noise bars from the screen.
- Since automatic tracking is not effective during slow motion or still playback, there is no need to set Auto Tracking to OFF.

NOTES:

- The settings for all on-screen accessed functions (Auto Tracking, Repeat, Dimmer) remain unchanged unless deliberately changed by the user; settings do not reset automatically when VCR power is turned off and turned on again.

For Playback (cont'd)





Variable-Speed Search And Slow Motion

You can view pictures in slow to fast motion in either direction. The VARIABLE SEARCH buttons let you control the speed and the direction.

During Playback or Still:

1 Press either VARIABLE SEARCH button. Tape will move in the corresponding direction.
- The more times the button is pressed, the faster the playback picture will move.
- To decrease speed, press the button for the opposite direction.
- Press PLAY to resume normal playback.

Picture Control

Your VCR has a built-in video processor that lets you choose the type of playback picture that's best for any given application. The PICTURE control button is on both the VCR and remote. The VCR's PICTURE button is illuminated when this function is activated.

During Playback:

1 Press PICTURE as many times as required to reach the desired setting.

VCR Display	When To Use
ENHANCED	When viewing tapes with noise due to repeated playback, such as rental videos.
TAPE DUB	When editing to another VCR.
SOFT PIX	When you want a soft picture.
SHARP PIX	When you want a sharp picture.
OFF	When no modification is required.

TV Monitor

During video tape playback, you can view the TV program being received by the VCR's tuner without having to stop the tape.

During Playback:

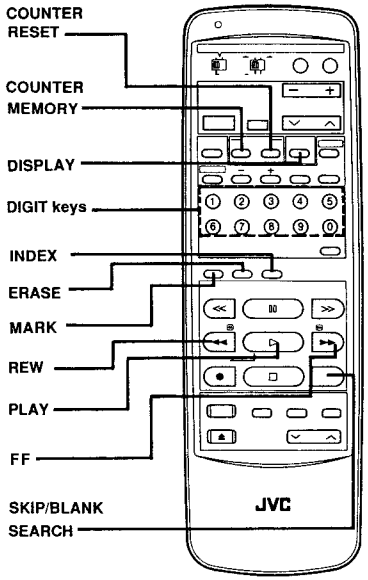
1 Press TV MONITOR.
- The TV program presently being received will appear on the TV screen.

2 Press TV MONITOR again to return to video tape playback.
- If you press TV MONITOR after engaging Skip Search, Index Search, or Blank Search, the TV screen will show the received TV program during the search, and then switch to tape playback when the search point is reached.

NOTES:

- If noise bars appear during slow motion, correct using manual tracking. ☞ p.22.
- During variable-speed search, some noise bars will appear.

For Tape Access



Index Search

This function gives you quick access to any one of 9 index codes in either direction. Your VCR automatically marks index codes at the beginning of each recording. You can manually mark and erase index codes as well.

1 Press INDEX. "INDEX 1" will be displayed.
- If you wish to access index codes 2 through 9, press INDEX repeatedly until the correct index number is displayed.

2 Press FF or REW. Index Search will start in the corresponding direction.

Manual Index Mark/Erase

TO MARK

During Playback or Record:

1 Press MARK. The VCR will mark an index code at that location.

TO MAKE CORRECTIONS

During Playback or Still:

1 Press ERASE. The VCR will fast-forward to the nearest index code and delete it.

Blank Search

This function lets you quickly locate the blank portion of a partially recorded tape.

During Stop:

1 Press SKIP/BLANK SEARCH.
- The VCR automatically fast-forwards or rewinds to the end of the recorded portion of tape, and stops.
- The tape's remaining time is automatically displayed. Press DISPLAY to return to the realtime counter display.

Counter Memory

During Play or Stop:

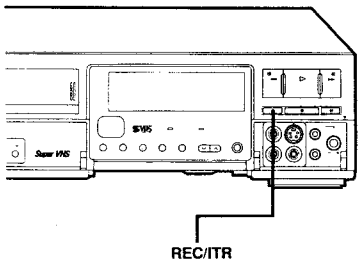
1 Press DISPLAY until a counter reading appears.
2 Press COUNTER RESET at a point you wish to locate later.
- The counter will read "0:00:00".

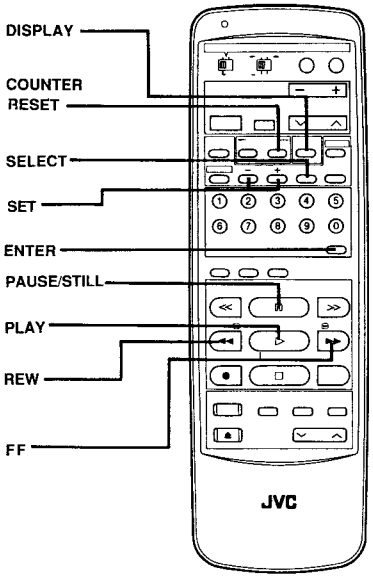
3 Press COUNTER MEMORY.
4 Press REW (or FF) when you wish to return to that point.
- The tape will rewind (or fast forward) and stop at about "0:00:00" automatically.

NOTES:

- Index codes cannot be marked nor erased if the cassette's safety tab is removed. ☞ p.9.
- Press PLAY or STOP to cancel Index Search or Blank Search before completion.
- If the end of the tape is reached during Index Search or Blank Search, the mode is cancelled and the tape is rewound to the beginning.
- When a fully recorded tape is used for re-recording new material, Blank Search can be used to detect the end of the new material.

For Recording



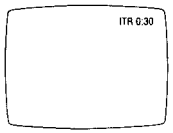


Instant Timer Recording (Off Timer)

You can start a recording and then set the VCR to shut off automatically after a set duration.

During Record:

1. Press the REC/ITR button on the VCR. A "0:30" indication appears, advising that power will switch off after 30 minutes.
2. Press REC/ITR again to delay the off-time by 30-minute increments (up to 9 hours).
   - For a more precise setting, use the remote control's SELECT/SET buttons to set the exact time required (possible up to 9 hours and 59 minutes).



Retake

You can cut out unwanted parts of a TV program while you're recording it.

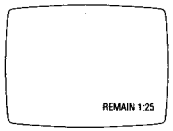
During Record:

1. Press PAUSE/STILL.
2. Press FF or REW for normal-speed search in the corresponding direction.
   - Release to return to Record-Pause mode.
3. Press PLAY when you wish to resume recording.

Remaining Tape Time Indication

When you need to know the tape's remaining time.

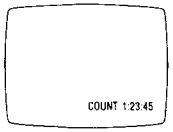
1. Press DISPLAY until "REMAIN" appears. Approximate remaining time appears on the TV screen and VCR display panel.
   - Press again to display the date.
   - Press again for the realtime counter reading.
2. Press ENTER to clear the screen.



Elapsed Recording Time Indication

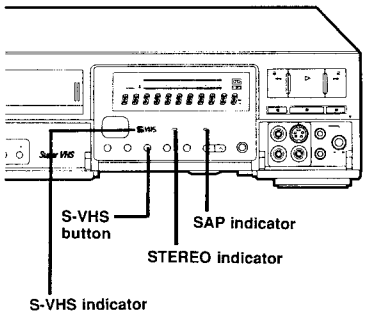
When you need to know the exact time of a recording.

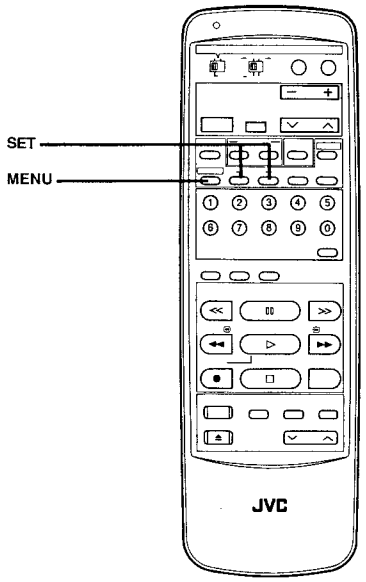
1. Press DISPLAY until "COUNT" appears.
2. Press COUNTER RESET before starting recording or playback.
   - The counter will be reset to "0:00:00" and show the exact elapsed time as the tape runs.
3. Press ENTER to clear the counter reading from the screen.



NOTES:

- The Remaining Tape Time is calculated based on the tape speed (SP or EP) being used. The indicated remaining time is only approximate.





S-VHS And VHS

Your VCR can record in either S-VHS or VHS.

- To record in S-VHS, insert a cassette marked "S-VHS". The S-VHS indicator will light and the S-VHS recording mode is automatically selected.
- To record in VHS, insert a cassette marked "VHS". The VHS recording mode is automatically selected.
- You can also record in VHS on S-VHS cassettes. For this purpose, after inserting an S-VHS cassette, press the S-VHS button. The S-VHS indicator will go out.

Stereo And SAP (Second Audio Program)

Your VCR is equipped with an MTS decoder for reception of Multichannel TV Sound broadcasts.

- When a stereo program is being received, the STEREO indicator lights.
- When an SAP program (such as a bilingual broadcast) is being received, the SAP indicator lights.
- When a stereo program is accompanied by SAP audio, both indicators light.

To Record Stereo Programs

Stereo programs are automatically recorded in stereo on the Hi-Fi audio track. No special operation is required. Simply follow the basic recording procedure.

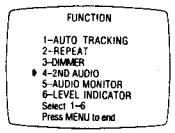
- To listen to the stereo soundtrack while recording, set the on-screen AUDIO MONITOR to "HI-FI". ☞p.21

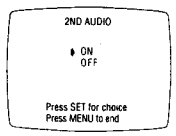
To Record SAP Programs

1. Press MENU.
2. Press the 2 key. (Function)
3. Press the 4 key. (2nd Audio)
4. Press SET to choose ON.
5. Press MENU to end.

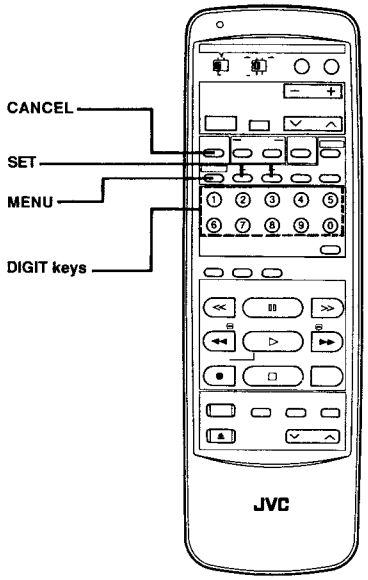
Then follow the basic recording procedure.

- To listen to the SAP audio, be sure to set the on-screen AUDIO MONITOR to "NORM". When set to "HI-FI", you will hear the main audio program; when set to "MIX" both languages will be mixed.





For Timer-Recording



Today's Program

This function offers an easier way to program the VCR for same-day timer-recording. The VCR "assumes" that the date of the program you wish to record is "today" so you don't have to input the date.

1. Press MENU.
2. Press the 1 key. (Program)
3. Press the 1 key. (Today's Program)
   - Subsequent steps are the same as steps D - H of "Single Program". ☞ p.15-16.

Weekly Program

This function lets you set the VCR to timer-record at the same time on the same day every week. Use it to record weekly serials.

1. Press MENU.
2. Press the 1 key. (Program)
3. Press the 3 key. (Weekly Program)
   - Subsequent steps are the same as steps C - H of "Single Program". ☞ p.15-16.

Daily Program

This function lets you set the VCR to timer-record at the same time everyday, Monday through Friday. Use it record daily serials (like soaps), news, etc.

1. Press MENU.
2. Press the 1 key. (Program)
3. Press the 4 key. (Daily Program)
   - Subsequent steps are the same as steps C - H of "Single Program". ☞ p.15-16.

Program Review

You can check the contents of the VCR's timer memory using this function.

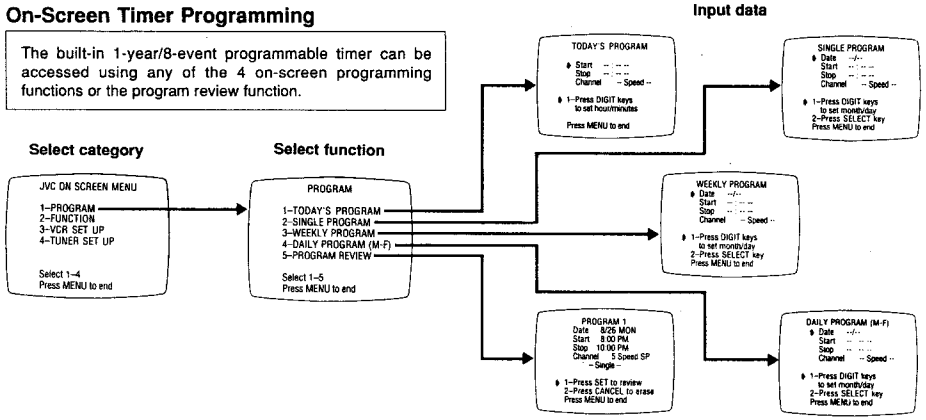
1. Press MENU.
2. Press the 1 key. (Program)
3. Press the 5 key. (Program Review)
4. Press SET to review timer-programmed data.
   - Press CANCEL to erase a program from memory.
5. Press MENU to end.

Things You Should Know

Timer-recording is one of the most useful functions of your VCR, and, if you don't understand it, it can be one of the most complicated too. Although JVC's on-screen programming is designed to make timer programming easier to understand and easier to do, please read the following to get a clear idea about why things work the way they work, and what you should do when things don't work as expected.

On-Screen Timer Programming

The built-in 1-year/8-event programmable timer can be accessed using any of the 4 on-screen programming functions or the program review function.



Error Messages

The following error messages may appear on the VCR's message panel when you press the TIMER button to engage the Timer Standby mode. Here's why, and what you should dc.

NO CASSETTE

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: There is no cassette in the VCR.

WHAT TO DO: Insert a cassette. Press TIMER again.

NO PROGRAM

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: There are no preset programs in memory.

WHAT TO DO: Check the programmed data and re-program it as necessary. Press TIMER again.

NO REC TAB

- Displayed for 5 seconds and the Timer Standby mode is cancelled.

WHY: The inserted cassette has its safety tab removed.

WHAT TO DO: Eject that cassette. Insert a cassette with its safety tab intact. Or cover the safety tab hole of the cassette with adhesive tape and re-insert it. Press TIMER again. ☞p.9.

For Timer-Recording (cont'd)

Other Messages

The following messages may also be encountered during timer-recording.

TIMER (with clock display)

WHY: The VCR is in the Timer Standby mode. This is the normal display you should see when you press the TIMER button,

TIMER REC

WHY: Normal display while timer-recording is in progress.

TAPE END

WHY: If this and "TIMER REC" are alternately displayed, it means that the end of the tape was reached while timer-recording was in progress. Therefore, the preset program may not be recorded in its entirety.

SET CLOCK

WHY: This means the clock must be set. It's displayed when time-keeping is terminated due to a power failure or because the VCR's power plug was pulled from the AC outlet.
WHAT TO DO: Set the clock. ☞p.10.

- If power was interrupted, it's also likely that all preset timer programming data has been erased. Please check and re-program as necessary.

On Checking And Cancelling Programs

Since executed programs are automatically cleared from memory (except those for daily and weekly serials), cases where the entire 8-event memory is full should be rare. If this should happen, when you select a programming function and open a data input screen, the screen will already be filled with data (instead of the normal input screen where the data items are blank). In such cases, check the preset programs and cancel one or more to make room for the new program(s) you wish to input.

TO CANCEL A PROGRAM

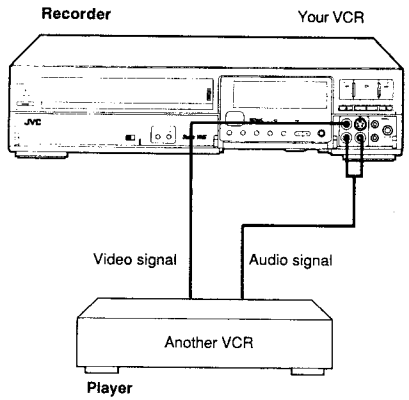
1. Press MENU.
2. Press the 1 key. (Program)
3. Press the 5 key. (Program Review)
4. Press SET to review preset programs.
5. Press CANCEL to erase the program displayed on the screen from memory.
   - Repeat steps 4 and 5 as necessary.
6. Press MENU to end.

Some Facts On Timer Operation

- If the end of the tape is reached during timer-recording, the cassette is automatically ejected and VCR power is switched off with "TIMER REC" and "TAPE END" flashing alternately on the message display panel.
- When timer-recording is successfully completed, the VCR power is automatically switched off.
- Since the timer starts and stops recording based on the time being kept by the VCR's built-in clock, the clock's time must be accurate for correct timer-recording results.

For Editing

Your VCR can be used as either the recording deck or the source player when editing tapes.



Assemble Editing

Assemble editing adds one recorded scene to another in succession.

3. Load the source tape in the player, and the recording tape in your VCR.
4. Select the recording speed (SP or EP).
5. Put your VCR in the Record-Pause mode.
6. Play back the source tape to search for a scene to be edited.
7. Press the recorder's PLAY button where you want to start editing.
8. Press the recorder's PAUSE button to stop editing.
9. Repeat steps 6 through 8 to continue editing.

NOTES:

- Insert editing is not possible with cassettes whose safety tab has been removed.
- Insert editing cannot be started from a non-recorded segment.
- In insert editing, the recording speed (SP/EP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.

Editing From Another VCR

When used as the recording deck, you can use either the rear VIDEO IN and AUDIO IN connectors, or the front INPUT 2 connectors. The front connectors also include an S-Video connector. For permanent connection, we recommend you use the rear panel connectors so that the front panel connectors are open for occasional connection to other components such as a camcorder.

- Front panel connections have priority.
- If connections are made to both the front V (Video) and S (S-Video) connectors, the S connection has priority.

PREPARATION

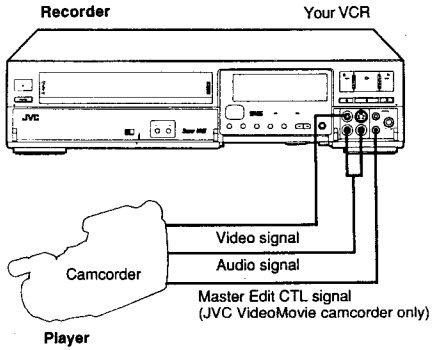
1. Connect the player's VIDEO OUT and AUDIO OUT connectors to your VCR's VIDEO IN (or S-VIDEO IN) and AUDIO IN connectors.
   - With monaural players, use your VCR's AUDIO IN L (MONO) connector.
2. Engage the AUX mode on your VCR. (CHANNEL UP/DOWN)
   - "AUX INPUT" or "AUX" will be displayed on the VCR display panel, or on the TV screen.
   - The AUX mode can also be engaged by pressing the digit key "0" on the remote control.

Insert Editing

Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged.

3. Load the source tape in the player, and the recording tape in your VCR.
4. Play back the recording tape and engage the Still mode at the edit-in point (the beginning of the segment to be replaced).
5. Press INSERT. (Insert-Pause mode)
   - The TV screen changes from the still picture to the input signal you are going to record.
6. Play back the segment of the source tape to be inserted.
7. Press PLAY.
   - Insert editing will start.
8. Press PAUSE to stop insert editing.
   - Do not press STOP to stop insert editing, otherwise the picture will be distorted at the switching point between the newly inserted and previously recorded pictures.

For Editing (cont'd)



■ Take advantage of Duet Editing for more convenient control of both the player and recorder. ☞ p.32

E-E (Electric-Electric) Monitoring

The TV MONITOR button serves as an E-E monitor button when editing. While playing back a tape on the recorder (your VCR), pressing TV MONITOR lets you check the contents of the player's tape (connected deck or VideoMovie) without having to stop the recorder's tape. Press TV MONITOR again to return to the recorder's tape.

Swap Editing

Your VCR is equipped with a SWAP terminal. When combined with a swap-control-capable VCR such as the JVC HR-S10000U, editing will be made easier. For more information about swap connection and swap control, refer to the instruction manual of the swap-control-capable VCR.

Editing From A VideoMovie Camcorder

Tape-to-tape editing is also possible using a VideoMovie camcorder (equipped with playback facility) as the player and your VCR as the recorder. In this case, the VCR's REMOTE PAUSE terminal can be used to accept Master Edit Control commands from the camcorder.

PREPARATION

1. Connect the VideoMovie's AV OUT connector to the VCR's front panel INPUT 2 V (Video) and A (Audio) connectors.
   - With a Super VHS VideoMovie, connect its S-OUT connector to the VCR's S connector.
   - If connections are made to both the V and S connectors, the S connection has priority.
   - With monaural VideoMovies, use your VCR's INPUT AUDIO L (MONO) connector.
2. Connect the AV output cable's mini-plug to the REMOTE PAUSE terminal of the VCR.

- If the VideoMovie is equipped with the Master Edit Control system, you can control the VCR using the VideoMovie's controls. See VideoMovie's instruction manual for operating procedures.
- With this connection, you can also use the VideoMovie as a video camera for direct recording onto the VCR's tape. Put the VCR in Record-Pause and use the VideoMovie's start/stop trigger to start and pause recording. (For direct recording with a separate video camera, a camera adapter is necessary.)

Editing To Another VCR

When used as the source player in combination with another video deck which is preroll-capable and equipped with a Pause Control Output terminal, your VCR's front REMOTE PAUSE terminal can be used for synchronized preroll editing. For more information refer to the instruction manual of the relevant model.

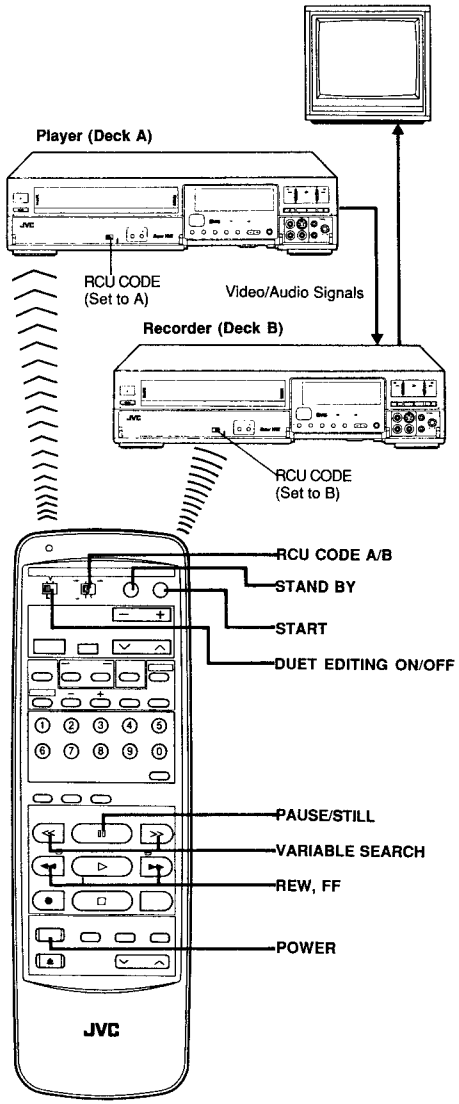
NOTES:

- When using your VCR as a playback deck, select the TAPE DUB mode with the PICTURE button. ☞ p.23
- If you do not want to record on-screen messages on the edited tape, cancel the on-screen display. ☞ p.17

Advantages Of S-VHS VCRs

You can edit from VHS to S-VHS, S-VHS to VHS, or, needless to say, from S-VHS to S-VHS.

- From VHS to S-VHS (VIDEO-VIDEO connection): Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS (VIDEO-VIDEO connection): Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS (S-VIDEO connection): All signals will be transferred without degradation.



Duet Editing

For those who have two JVC VCRs and are interested in editing, this function will simplify editing operations by delivering separate commands to two VCRs simultaneously from a single remote control in the form of separate "A" and "B" control codes. (Designated JVC models only.)

PREPARATION

1. Connect two JVC VCRs. (REMOTE PAUSE connection not necessary.) ☞p.31.
2. Set one VCR to respond to A code signals, and the other to respond to B code signals. ☞"A/B Code Switching"
3. Place the two decks side by side.
4. Load a recorded tape into deck A, and a blank tape into deck B.

OPERATION

5. Set the DUET EDITING ON/OFF switch to ON.
6. Set the RCU CODE A/B switch to "A→B".
7. Press STAND BY. Deck A enters Still mode, B enters Record-Pause mode.
8. Search for a scene you want to edit from deck A to deck B (only deck A will move) and press PAUSE/STILL.
9. Press START. Deck A enters Play mode, B enters Record mode.
10. Press PAUSE/STILL. Deck A enters Still mode, B enters Record-Pause mode.
    - Repeat steps 8, 9 and 10 to continue editing.

A/B Code Switching

The VCR's code is determined by the setting of the RCU CODE switch. Both the VCR's and remote's RCU CODE switches are preset to "A". For B code remote operation, set both switches to "B". The VCR will only respond to B code signals.

NOTES:

- With the VCR's RCU CODE switch set to "OFF", the VCR will not respond to any remote control signals.
- For changing the code mode of another JVC VCR, refer to the instruction manual of the relevant model. JVC VCRs not equipped with this function are generally designed to respond to A code signals.

CAUTION:

Some TV sets may malfunction in response to the B mode. If this happens switch back to the A mode.

NOTES:

- To use deck B as source player and deck A as recorder, set the RCU CODE A/B switch to "B→A".
- To cancel the Duet Edit mode, set the DUET EDITING ON/OFF switch to OFF.

List Of VCR Display Panel Messages

Displayed Message	When It Appears and What It Means
During Clock Set	
CLOCK SET	Clock Set mode is selected.
TIME 12:59 AM	"12:59AM" is input for the time.
M11/D30/Y91	"November 30, 1991" is input for the date.
During Program Set	
TODAY PROG	"Today's Program" menu is selected.
SINGLE PROG	"Single Program" menu is selected.
WEEKLY PROG	"Weekly Program" menu is selected.
DAILY PROG	"Daily Program" menu is selected.
DATE 12/ 31	"December 31" is input for the rec start date.
START 11:00AM	"11:00AM" is input for the rec start time.
STOP 12:30PM	"12:30PM" is input for the rec stop time.
CHANNEL 10	"10" is input as the channel to be recorded.
SPEED EP	"EP" is chosen as the recording speed.
During Channel Set	
CHANNEL SET	Channel Set mode is selected.
CHANNEL 10	"Channel 10" is scanned/input.
ADD	The channel is memorized/added.
SKIP	The channel is skipped/deleted.
During Normal Operation	
PLAY	Normal playback is in progress.
STOP	Stop mode has been engaged. Displayed for 2 seconds.
STILL	A still picture is being viewed.
FF	Fast-forwarding.
REW	Rewinding.
REC SP 10	Recording "Channel 10" in "SP".
REC SP 1:30	Recording with the Off Timer set to shut off in 1 hour 30 minutes.
PAUSE 10	Recording is paused.
INSERT	Insert editing is in progress.
INSERT P	Insert editing is paused.
TIMER REC	Timer-recording is in progress.
FWD SLOW	Forward slow motion is in progress.
REV SLOW	Reverse slow motion is in progress.
FWD SEARCH	Forward search is in progress.
REV SEARCH	Reverse search is in progress.
SKIP SEARCH	Skip Search is in progress.
BLNK SEARCH	Blank Search is in progress.
INDEX + 9	Searching for the 9th index code in the forward direction.
INDEX – 4	Searching for the 4th index code in the reverse direction.
INDEX MARK	Index code is being marked.
INDEX ERASE	Index code is being erased.
INDX REPEAT	Segment Repeat playback is in progress.
FULL REPEAT	Full Repeat playback is in progress.
CHANNEL 10	Channel 10 is being received.
TV MONI 23	TV Monitor is engaged, channel 23 is being received.
AUX INPUT	Auxiliary input source is being received.
EJECT	Cassette is being ejected.

Displayed Message	When It Appears and What It Means
During Next Function Memory	
REW – OFF OFF	Will rewind to the beginning and then shut off automatically.
REW – PLAY PLAY	Will rewind to the beginning and then start playback automatically.
REW – TIMER TIMER	Will rewind to the beginning and then enter the Timer mode automatically.
REW – EJECT EJECT	Will rewind to the beginning and then eject the tape automatically.
Clock and Counter Displays	
4:30:15	Tape counter reading of "4 hours, 30 minutes, 15 seconds".
M 4:30:15	Same as above with Counter Memory ON.
REMAIN 2:24	2 hours and 24 minutes of recording time remaining on the tape.
12/31 10:30AM	It is presently December 31, 10:30AM. (Standard date/time display when VCR power is turned off)
TIMER 10:30AM	It is 10:30AM and the Timer mode is engaged.
SET CLOCK	The clock is not set. Please set it.
TIMER REC TAPE END	End of tape was reached during timer-recording.
Picture Control Displays	
ENHANCED	"Enhanced" setting is selected.
TAPE DUB	"Tape Dubbing" setting is selected.
SOFT PIX	"Soft Picture" setting is selected.
SHARP PIX	"Sharp Picture" setting is selected.
OFF	Scene Control function is turned OFF.
Error Messages	
NO CASSETTE	There is no cassette in the VCR.
NO REC TAB	The cassette's safety tab is removed.
NO PROGRAM	No program has been preset.
Other Messages	
GOOD MORNING GOOD AFTERNOON GOOD EVENING	Automatic greetings when the VCR is turned on.
GOOD-BYE GOOD NIGHT	Automatic greetings when the VCR is turned off.

NOTES:

This list represents the various types of messages your VCR is capable of generating. Actual messages displayed by your VCR (esp. if date, time, channel, tape counter reading, or other variables are involved) will differ slightly from those listed here.

Helpful Terms And Information

The following glossary is for your convenience in helping you better understand your VCR and its operation.

Auto Channel Set: Part of the "TUNER SET UP" function. When used, the VCR runs through (scans) all the channels on the VCR, automatically placing all channels receivable in your area into the VCR's memory.

AV: Short for Audio/Video. Often refers to separate audio (sound) and video (picture) signals which, when combined, make up a program.

AV Connection: Type of VCR-to-TV connection in which the VCR's AUDIO OUT and VIDEO OUT terminals are connected to the TV's AV IN terminals. Audio and video signals are sent separately and directly to the TV without having to modulate them into RF signals.

Bands: Four settings are available on the VCR so you can receive TV programming from just about any broadcaster.

TV:
Use this setting to receive VHF (Very High Frequency) and UHF (Ultra High Frequency) channels only. These are received by the tuner on channels 2 thru 13, and 14 thru 69, respectively.

CATV:
Short for Community Antenna TV, and commonly referred to as simply "Cable TV". Use this setting to receive channels on cable.

HRC:
Use this setting if your particular cable system is HRC (Harmonically Related Carrier).

ICC:
Use this setting if your particular cable system is ICC (Incremental Coherent Carrier).

Cassette Adapter: Provided with most Compact VHS camcorders, and also available optionally, it allows VHS-C cassettes to be played (and recorded) on VHS VCRs just like full-size VHS cassettes.

Editing: Refers to dubbing or tape-to-tape editing (in which the contents of a tape in one video unit are copied to another tape in a second video unit), and to creative editing (in which video programming is actually modified to create something different from the original).

FDP: Short for Fluorescent Display Panel, which is the type of display panel used on this VCR.

Head: An electronic component which "writes" or "reads" video signals on the tape.

Head Drum: A drum-shaped cylindrical assembly on which the video heads are located. It rotates at high speed, allowing the heads to "write" and "read" diagonal signal tracks on the video tape.

HQ (High Quality): An enhancement feature in the VCR circuitry which provides greater picture detail.

Index Code: An electronic code "written" on the tape's control track when recording is started or when the Index Mark facility is used. Index codes can be used to facilitate program search, and have absolutely no effect on recorded pictures or sound.

Master Edit Control System: A properly-equipped VideoMovie camcorder sends a control signal to the VCR via the REMOTE PAUSE terminal, "telling" the VCR to release the Pause mode.

Mode: The status of the VCR (the operating feature being used) at any given time. (e.g. The tape is being rewound = the VCR is in the Rewind mode.)

On-Screen Menu System: VCR functions are easier to operate because they can be chosen, and required data can be input, while viewing special screens displayed on your TV.

Preroll: The VCR backtracks the tape slightly from its original position in Pause or Still so that when Pause/Still is released, the VCR is able to "roll" the tape and get it up to its most stable speed by the time Record or Play is resumed.

Preroll Editing: When two properly-equipped VCRs are used in editing, the recording deck sends a control signal to the playback deck via the REMOTE PAUSE terminal, "telling" it to release the Still mode after the recording deck has completed preroll.

Realtime Counter: The VCR's tape counter shows tape time precisely in hours, minutes and seconds (unlike simple sequential counters). The counter resets automatically when a cassette is inserted.

RF Coaxial Cable: Black insulated round cable used to connect the VCR to the TV.

RF Connection: Type of VCR-to-TV connection in which the VCR's RF (Radio Frequency) OUT terminal is connected to the TV's ANTENNA terminal. The VCR essentially "broadcasts" the program to your TV on channel 3 or 4.

Special Effects: Playback modes other than normal-speed forward playback; includes still playback (stop motion), slow motion, and high-speed visual search.

Super VHS: A version of the VHS format which was developed to provide pictures with over 400 lines of horizontal resolution. This VCR can handle both standard VHS and Super VHS (S-VHS) signals.

Tape Speeds: This determines how fast the tape travels during a recording.

SP (Standard Play):
Fast tape speed. Provides recording time of about 2 hrs. per T-120 cassette, and 2 hrs. 40 mins. per T-160 cassette. Most prerecorded VHS software is recorded in SP.

EP (Extended Play):
Slow tape speed. Provides recording time of about 6 hrs. per T-120 cassette, and 8 hrs. per T-160 cassette. Useful for multiple-program recording on a single cassette.
Some manufacturers sell VCRs with an intermediate LP (Long Play) speed, which is not officially recognized as a VHS standard. This JVC VCR can play back LP-recorded tapes, but will not record in that tape speed.

Timer-Recording: Using the VCR's built-in clock/timer for automatic, unassisted start and stop of recording.

Tracking: The video head's ability to accurately "read" recorded signals (tracks) without deviating. When tracking deviation occurs, it appears on the screen as vertical jitter and grainy streaks. The Digital Tracking function on this VCR is an extremely accurate automatic tracking system which greatly reduces the possibility of deviations.

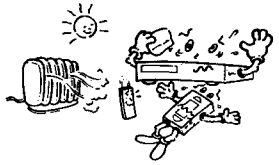
Tuner: The part of the VCR that receives TV signals off the air and via cable. The Frequency Synthesized Tuner of this VCR is highly accurate, and is capable of receiving up to 181 channels.

VCR: Short for Videocassette Recorder.

VHS: The video format of this VCR, and the video format most widely used throughout the world.

Precautions

VCR, Remote Control, And Cassette Care



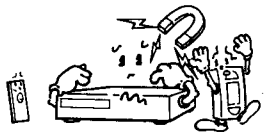
Avoid extreme heat and direct sunlight

Avoid extreme cold

Avoid extreme humidity

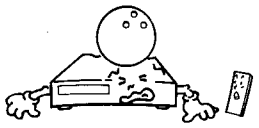
Avoid dust

Avoid places subject to vibrations

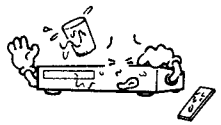


Avoid strong magnetic fields

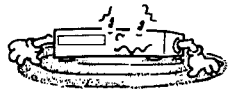
Do not block the VCR's ventilation openings



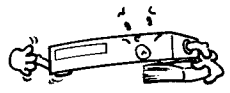
Do not place anything heavy on the VCR or remote control



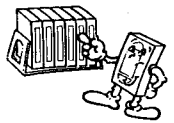
Do not place anything which might spill on top of the VCR or remote control



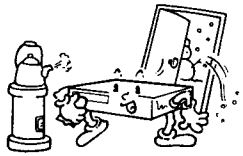
Do not place the VCR on cushions, pillows, or thick carpeting



Use the VCR in a stable, horizontal position only

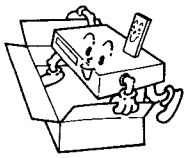


Place cassettes in cassette cases and store vertically



Beware of moisture condensation

Moisture in the air will condense on the VCR when you move it from a cold place to a warm place, or under extremely humid conditions — just as water droplets form on the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the VCR's power turned on for a few hours to let the moisture dry.



When transporting

- Be sure to remove cassette from VCR before packing
- Avoid violent shocks to the VCR during packing and transport

Specifications

GENERAL

Power requirement	:	AC 120 V~, 60 Hz
Power consumption	:	34 W
Temperature		
Operating	:	5°C to 40°C (41°F to 104°F)
Storage	:	–20°C to 60°C (–4°F to 140°F)
Humidity		
Operating	:	35% to 80%
Storage	:	5% to 80%
Operating position	:	Horizontal only
Dimensions (WxHxD)	:	435 x 102 x 373 mm (17-3/16" x 4-1/16" x 14-11/16")
Weight	:	6.4 kg (14.2 lbs)
Format	:	S-VHS/VHS NTSC standard with Hi-Fi audio
Tape width	:	12.65 mm
Tape speed (SP)	:	33.35 mm/sec (1-5/16 ips)
(EP)	:	11.12 mm/sec (7/16 ips)
Maximum recording time (SP)	:	160 min. with T-160 video cassette
(EP)	:	480 min. with T-160 video cassette

VIDEO

Signal system	:	NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording system	:	Rotary two-head helical scan system with slant double-azimuth combination video heads
Input	:	0.5 to 2.0 Vp-p, 75 ohms, unbalanced
Output	:	1.0 Vp-p, 75 ohms, unbalanced
Signal-to-noise ratio	:	45 dB (Rohde & Schwarz noise meter) with PICTURE CONTROL set to OFF
Horizontal resolution	:	240 lines (VHS) 400 lines (S-VHS) with PICTURE CONTROL set to OFF

AUDIO

Input	:	–8 dBs, more than 50 k-ohms, unbalanced
Output	:	–8 dBs, less than 1 k-ohm, unbalanced (100 k-ohms, load)

NORMAL AUDIO

Recording system	:	Longitudinal track
No. of channels	:	1 normal audio channel
Frequency response	:	70 Hz to 10,000 Hz

HI-FI AUDIO

Recording system	:	Deep-layer recording system conforming to stereo Hi-Fi VHS standard
No. of channels	:	2 Hi-Fi audio channels
Frequency response	:	20 Hz to 20,000 Hz
Dynamic range	:	More than 90 dB
Wow and flutter	:	Less than 0.005% WRMS

TUNER

Tuning system	:	Frequency synthesized tuner
Channel coverage		
(VHF)	:	Channels 2–13
(UHF)	:	Channels 14–69
(CATV)	:	113 Channels
RF output	:	Channel 3 or 4 (switchable; preset to Channel 3 when shipped) 75 ohms, unbalanced

TIMER

Clock reference	:	Quartz-crystal
Program capacity	:	1-year programmable timer/ 8-programs

ACCESSORIES

Provided accessories	:	RF cable (F-type), Infrared remote control unit, "AA" battery x 2, Audio cable, Video cable, S-Video cable (4-pin), Mini-plug cable

E. & O.E. Specifications shown are for SP mode unless otherwise specified.
Design and specifications subject to change without notice.

In Case Of Difficulties

POWER AND TAPE TRANSPORT PROBLEMS

Symptoms	Check points
No power is applied to the VCR.	• Is the power cord disconnected? — Connect it.
Clock is functioning properly, but the VCR cannot be powered.	• Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Tape stops during rewind or fast-forward.	• Is the COUNTER MEMORY button pressed? — Press again to make "M" disappear from the display panel.
Tape will not rewind or fast-forward.	• Is the tape already fully rewound or fast-forwarded? — Check the cassette.

RECORDING PROBLEMS

Symptoms	Check points
Recording cannot be started.	• Is a cassette loaded? • Is the safety tab on the cassette removed? — Reseal the slot with adhesive tape.
TV broadcasts cannot be recorded.	• Has "AUX" been selected? — Set to the desired channel.
Tape-to-tape editing is not possible.	• Is the camcorder or VCR correctly connected? • Are all necessary power switches turned ON? • Has "AUX" been selected? — Set to "AUX".
Camera recording is not possible.	• Is the camcorder correctly connected? • Has "AUX" been selected? — Set to "AUX".
Timer recording is not possible.	• Have you set the clock correctly and programmed the timer correctly? — Check once again. • Is "TIMER" displayed on the display panel? — If not, press the TIMER button to display "TIMER".

PLAYBACK PROBLEMS

Symptoms	Check points
Playback picture does not appear while the tape is running.	• If you are using RF OUT connection, is the TV receiver's channel selector set to the correct video channel? — Set it to the RF converter channel (3 or 4). (☞p.8) • If you are using AV connection, is the TV receiver set to the AV mode? — Set it to the AV mode.
Playback is repeated.	• Is "REPEAT" on the VCR SET UP menu set to either "FULL" or "SEGMENT"? — Set it to "NO".
Noise appears during visual search.	• This is normal.
Noise appears during playback.	• Is the automatic tracking mode engaged? — Try manual tracking. (☞p.22)
Playback picture is blurred or interrupted while TV broadcasts are clear.	• Video heads may be dirty. — Head cleaning is necessary. Consult your JVC dealer. (☞p.38)

Hi-Fi AUDIO PROBLEMS

Symptoms	Check points
Breaks are noticeable in Hi-Fi audio reproduction.	• Is the automatic tracking mode engaged? — Try manual tracking. (☞p.22)
Hi-Fi soundtrack cannot be reproduced.	• Is "AUDIO MONITOR" on the FUNCTION menu set to "NORM"? — Set it to "HI-FI".

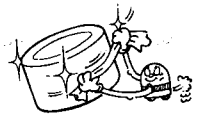
OTHERS

Symptoms	Check points
Clock setting is not possible.	• Is "TIMER" displayed on the display panel? — Press the TIMER button to extinguish the display.
Some channels are skipped over when scanning channels.	• Those channels are preset to be skipped over. If you need them, restore them. (☞p.19)
Channel cannot be switched.	• Is recording in progress? — Press the PAUSE/STILL button, change the channel, and press the PLAY button.
Snowy picture on screen when viewing TV programs while recording another program.	• Is the VIDEO indicator lit? — Press the TV/VIDEO button so that the indicator extinguishes.
Remote control does not function.	• Are the batteries discharged? — Replace with new ones. • Is the A/B CODE switch set to the proper code for the VCR being operated? — Reset the A/B CODE switch to the correct setting.
Index Search does not function properly.	• Adjacent index codes may be too close to each other. — Erase some index codes and mark new ones if necessary, with sufficient distance between any two index codes.

ATTENTION:
This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the power off and unplug the power cord. Then plug it in again and switch on. Take out the cassette. After checking the cassette, operate the unit as usual.

Special Note On Head Cleaning

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Although this model is equipped with a built-in head cleaner which automatically cleans the heads, reducing the likelihood of dirty heads, if such troubles are encountered please consult the nearest JVC dealer.



Auto Head Cleaner

A built-in head cleaner automatically cleans the video heads and head drum whenever a tape is loaded or unloaded to reduce head clogging.